Canadian Journal of PUBLIC HEALTH

The National Journal of Preventive Medicine

Volume 44 **OCTOBER 1953** **Number 10**

●

Twenty-First Christmas Meeting
LABORATORY SECTION
Toronto, December 14 and 15
Royal York Hotel and Hospital for Sick Children

●

Published Monthly by the
CANADIAN PUBLIC HEALTH ASSOCIATION
150 COLLEGE STREET, TORONTO 5

SCHOOL OF HYGIENE

University of Toronto

DIPLOMA IN PUBLIC HEALTH

for graduates in Medicine

In addition to the regular courses of instruction, provision has been made to permit suitably qualified candidates to receive the basic training in public health and to prepare for appointments in the following special fields:

Public Health Nutrition
Public Health Education
Administration of Medical Care Plans.

DIPLOMA IN HOSPITAL ADMINISTRATION

for university graduates

DIPLOMA IN INDUSTRIAL HYGIENE

for graduates in Medicine

DIPLOMA IN DENTAL PUBLIC HEALTH

for graduates in Dentistry

DIPLOMA IN VETERINARY PUBLIC HEALTH

for graduates in Veterinary Science

MASTER OF APPLIED SCIENCE

for graduates in Engineering

CERTIFICATE IN PUBLIC HEALTH

for graduates in Arts or Sciences

CERTIFICATE IN PUBLIC HEALTH
with specialization

for graduates in Arts or Sciences

Specialization permitted in
Public Health Nutrition, Public Health Education, Sanitation, Bacteriology and related subjects.

For information write

The Director, School of Hygiene, University of Toronto,
Toronto, Ontario.

Babies thrive on real meat

Clinical tests, originated by Swift as a service to the medical profession, show what happens when Swift's Meats for Babies are fed to very young infants:

- Babies *digest* the nutrients of meat as easily as milk. *Sisson, Emmel and Filer, "Meat in the Diet of Prematures," Pediatrics, 7, 89, (1951).*
- Babies *utilize* the nutrients in meat as well as in milk. *Sisson, Emmel and Filer, "Meat in the Diet of Prematures," Pediatrics, 7, 89, (1951).*
- Babies have *high-normal hemoglobin concentration* when fed meat. *Leverton and Clark, "Meat in the Diet of Young Infants," J.A.M.A., 134, 1215, (1947).* Also *Andelman, Gerald, Rambar and Kagan, "Effects of Early Feeding of Strained Meat to Prematurely Born Infants," Pediatrics, 9, 485, (1952).*
- Babies have a 40% lower morbidity rate when fed meat than when not fed meat. *H. M. Jacobs and G. S. George, "Evaluation of Meat in the Infant Diet," Pediatrics, 10, 463, (1952).*
- Babies allergic to milk proteins can substitute a formula made with meat. *McQuarrie and Ziegler, "Nutritive Value of Mineral-Enriched Meat and Milk," Pediatrics, 5, 210, (1950).*

If you would like a reprint of any of these studies, write Swift Canadian Co., Limited, Dept. S.M.B., Toronto 9, Ontario.

. . . here's meat they can eat at 3 weeks!

- Swift's Meats for Babies are strained so fine they flow right through the nipple of a nursing bottle. Later, of course, babies can eat them from a spoon.
- All meat—top source of protein, B vitamins, and food iron. And Swift's Meats for Babies are expertly prepared for maximum retention of these nutrients.
- Economical—actual cost records show they cost only about half as much as meats prepared in the home.
- So—Swift's Meats for Babies are being recommended by more and more doctors *earlier* in babies' lives. Some pediatricians are starting meat as early as 3 weeks, mixed right into the formula.

SWIFT CANADIAN CO., LIMITED.

Swift's Meats for Babies

7 Kinds for Variety—All 100% Meat —Strained and Junior.

Beef, Lamb, Veal, Pork, Liver, Heart, Liver and Bacon. And *now*—Swift's Strained Salmon for Babies—Canada's first and *only* 100% sea-food for babies—provides all the vitamins, iron and protein of fish in easily-digestible form for babies.

All nutritional statements made in this advertisement are accepted by the Council on Foods and Nutrition of the American Medical Association.

Canadian Journal of
PUBLIC HEALTH

VOLUME 44 OCTOBER, 1953 NUMBER 10

CONTENTS

ARTICLES:

EDITORIAL SECTION:

THE CANADIAN PUBLIC HEALTH ASSOCIATION, 1952-1953 (PART 1)

DEPARTMENTS:

The Canadian Journal of Public Health is published monthly by the Canadian Public Health Association. Editorial and business offices, 150 College Street, Toronto 5, Ontario. Subscription $3.00 a year, payable in advance. Single copies 50 cents. Authorized as second-class mail, Post Office Department, Ottawa.

Canadian Journal of
PUBLIC HEALTH

VOLUME 44 TORONTO, OCTOBER 1953 NUMBER 10

The Unfinished Business of Public Health

JOHN HOWIE, M.D., C.M., D.T.M., D.P.H.
Medical Officer of Health
Windsor, Ontario

ALL public health workers have noticed how interested individuals and families are in having the habits and actions of their neighbours changed, but how strenuously they object to changing their own ways. It is always the neighbour's children who break quarantine regulations, the neighbour's roof which has defective eavestroughs, the neighbour's dog which barks incessantly, and so on.

This is a human trait and we ought, as public health workers, to examine our own attitude to change. A laissez-faire attitude is very comfortable, but it is one which is entirely foreign to the real spirit of public health. We have every reason to be proud of our past accomplishments, particularly in the field of communicable disease, but it would do us good to think of those things we have left undone. What is the unfinished business of Public Health? In what measure have we failed to put our knowledge into practice or to convince the public or the various levels of government of the value of policies and procedures which would promote better health and well-being for the individual and the community?

In the field of public health, it is obvious we shall always have unfinished business. That need not worry us too much. What should give us cause for thought is the work which might be underway and has been overlooked or set aside for some more convenient day. That day is upon us for, more than in any other period in our history, the public is very much alive to health problems, and federal, provincial and municipal governments are moving forward steadily on an inventory of our health needs and resources. An un-

---

Presidential address given at the fourth annual meeting of the Ontario Public Health Association, held in conjunction with the forty-first annual meeting of the Canadian Public Health Association, Toronto, October 1 and 2, 1953.

precedented contribution toward that end has been made by the Federal Government and, in that connection, I should like to pay a well-deserved tribute to the Department of National Health and Welfare, under the outstanding leadership of the Honourable Paul Martin.

National Health Grants

A few months ago, in addressing the annual meeting of the Canadian Medical Association, the Minister of National Health and Welfare called attention to the fact that, since the national health program was initiated by the late Honourable W. L. Mackenzie King in 1948, approximately one hundred million dollars have been expended by the Federal Government in support of the provincial and local health projects. This magnificent investment in the nation's health is one which the people of Canada have very clearly endorsed.

By subsidizing new hospital construction; by increasing hospital, laboratory and out-patient facilities and services; by training and making possible employment of specialized health workers; and by contributing to medical and public health research, a long step forward has been taken in filling the gaps in existing programs. Significant progress has also been made in the attack on chronic diseases and mental illness, and in making health services available on a more equitable basis across the country.

Not the least of the accomplishments of the national health program has been the inventory of health problems and facilities in all of the ten provinces. The recommendations which arise from these studies should prove a fertile field of unfinished business.

Medical Care

So far as the public is concerned, the health problem most frequently discussed is that of medical care. It has been given particular prominence in Labor Union debates, and the intense interest of the public generally is reflected in the press of the nation. Everyone agrees that medical care for all the people should be available and adequate. The chief problem which has risen, however, is that, as medical services have improved, they have become more and more expensive. This is a problem which must be faced by the medical profession as well as by governmental bodies.

To meet that situation, we have seen the development of a number of contributory medical care plans, none of which is better known or more highly developed than that of the Windsor Medical Services. This plan, conceived by the Essex County Medical Society, has been studied throughout Canada and the United States and has become a pattern for the establishment of medical care plans in other areas. It might be noted, however, that, though it was established during a depression period, it has functioned and grown largely in a time of full employment and still has to meet the test of a recession.

While such plans are becoming more and more popular, they do not yet cover all of the people all of the time nor for all types of illness. How to do

so on an equitable, adequate and, if at all possible, contributory basis, while maintaining the traditional Canadian relationship between doctor and patient, is definitely a problem in the field of unfinished business. If it can be accomplished with a minimum of governmental regulation, Canada will be the envy of the entire world.

Chronic Illnesses

During the last few years, increasing emphasis has been placed on the problem of chronic illnesses. From the public health point of view, we are only on the fringe of our endeavours in the fields of arteriosclerosis, heart diseases, cancer, arthritis, diabetes and the many other ailments which contribute to chronic disabilities. We now realize that environment, social and psychological as well as physical, plays a part in such illnesses, that economic dependency arises from them and that community programs are necessary not only for care but for research and for prevention. The subject, in general, is too broad for a paper of this kind, but there are two facets of it which deserve special consideration.

Dental Caries

When we think of chronic illness, our thoughts naturally turn to middle and old age, but the most prevalent of all chronic illnesses is one which affects the very young, and that is dental caries. In my judgment, we have an effective method of attacking that problem by the fluoridation of municipal water supplies. Fluoridation is not a foolish notion. It is economically and scientifically sound, and no project in public health has ever been so thoroughly studied before calling for its adoption.

Nature has shown us the way and fluoridation is not only beneficial, but it is also safe. People have lived in communities all their lives where the water is naturally fluoridated at or near the optimum level and they are living proof of its safety and value. The fact that we may some day find an even better method of preventing dental caries and that we should continue striving to do so, is no reason for procrastination at the present time. We all know that Insulin does not cure diabetes and that there may some day be found a method of preventing the disease, but no one uses that possibility as an argument against accepting the benefits conferred here and now by the use of Insulin.

There is, of course, a small but very vocal group in opposition to fluoridation. If we wait until everyone is completely convinced, we shall never get started, and the same could have been said of vaccination and other immunization procedures which are now well-established preventive measures in public health. How many of us in Ontario would advocate a return to pre-pasteurization days? Yet there are people in our province who still oppose it, and there are communities in Canada where it has not yet been established. I do not advocate that we ride roughshod over the individuals and groups who may be opposed to fluoridation, for a number of them are quite sincere in their opposition, but I do feel that, while every effort is being made to enlighten them, we should no longer delay in putting our knowledge into effect.

Hay Fever

Hay fever is another disease which could and should be lessened. It causes a great deal of unnecessary suffering and, once it attacks an individual, it usually becomes a life-long problem. It is one of the most common and most annoying of all chronic diseases, may lead to the development of asthma, and tends to aggravate sinus trouble and increase susceptibility to colds. Methods of hyposensitization, desensitization and symptomatic treatment are of value in individual cases but cannot be considered an adequate public health answer to the problem.

The chief cause of hay fever is ragweed. Its eradication would be of advantage to rural as well as to urban communities because of the fact that it can occupy much space and decrease crop yields. Ragweed can be very objectionable in pasture fields and in fodder as it gives a peculiar odour to the milk of cows which eat it.

The tourist industry in Canada would also benefit from its eradication. It is estimated that the United States has over five million hay-fever victims. Many of them look to Canada for a refuge free from ragweed, and this is an additional reason to stimulate an all-out attack on the ragweed problem. A number of localities in Ontario (Windsor being one of them) have stepped up their weed control programs, but, if any local program is to be effective, it must be supplemented by a vigorous provincial campaign. The Province of New Brunswick is alive to the value of a provincial attack on weeds, especially ragweed, and Ontario might very well follow suit.

As hay fever is caused by wind-borne pollen, it is a natural step in our thinking to go on to the general subject of air pollution.

Air Pollution

This problem has come to the fore as a matter of special public health concern only very recently. Because of that concern, a scientific investigation of atmospheric conditions in the Detroit-Windsor area was started a few years ago. Last November, under Provincial Department of Health auspices, an additional study of the effects of air pollution on health was also begun in the same area. It is hoped that, arising from these studies and a similar one now being carried out in London, England, standards and controls may be developed.

In announcing the Federal Grant to finance this health study, the Honourable Paul Martin made the following comment:

"The health study has a five-fold purpose. It will try to find if there is any relationship between the amount of poisonous gases, soot and dust in the air to the amount and kinds of illnesses and their severity. It will determine the amount of disability in terms of time lost through illness. It will try to evaluate the extent to which chronic illnesses of the heart, arteries and respiratory system are aggravated by poisonous pollutants in the air. It will see if there is any relationship between air pollution, weather conditions and the distribution of illness, and it will try to work out control over air pollutants which are found to be lethal.

"If the study shows a positive relationship between air pollution and health, the results will be useful in working out measures to protect the exposed population, in planning for the inclusion of appropriate measures in local public health programs and in providing a sound basis for planning possible legislation to control air pollution."

Water Pollution

A significant study of water pollution in boundary waters in Ontario has recently been completed by the International Joint Commission. Their investigation confirms our knowledge that a great deal of work on the construction of plants for domestic sewage treatment and industrial waste control will have to be done before our streams and lakes will be restored to a satisfactory level of purity. At the present time, we can point to several rivers where household and industrial wastes cause a condition which is either hazardous or, to put it mildly, grossly unsanitary.

It is hoped that the commission's publication of its findings, added to the natural interest of the public, may impel municipal administrations to find the necessary funds to bring about correction of the conditions. It will take a large amount of money to accomplish that desirable objective. In the border areas, sewage treatment plants have already been established to take care of the greater part of the household wastes on the American side and it is high time that conditions on the Canadian side of the international boundary waters should be rectified.

In general, industry has shown evidence of willingness to tackle its share of the problem. As public health workers, we should see to it that municipalities are made aware of their responsibility also. The larger the municipality, the greater is the problem created, but it is also true that industries in these municipalities provide a major part of the tax collections and most of these taxes go to the federal and provincial governments. Assistance might very well be given by provincial and federal authorities, but that possibility should not be used as an excuse for further delay in meeting the problem.

Both water and air pollution involve our total economy and present a threat to industrial expansion, residential settlement, agriculture, recreation, fish and wild life. Definitely they constitute a public health problem in the classification of unfinished business.

Housing

Housing is another major problem of unfinished business in public health. We shall never, of course, be able to write "finis" to the need for housing, but we are still far from even a feeling of satisfaction about progress in that regard in most urban areas.

In all municipalities, there still appear to be many substandard houses and it continues to be a problem for large families to obtain decent homes. The larger the family the more difficult is the quest and the more dilapidated is the place that you find such families occupying. It is not at all surprising that morals should degenerate, and delinquency flourish, under such conditions.

Housing projects are expected to pay their way and it is natural, in the

circumstances, that those responsible for their management should pick their tenants. Not infrequently, those most in need of housing are left to the last before accommodation is allotted to them. Development of low-cost housing in congested areas and removal of slum conditions is still very much in the field of unfinished business.

One facet of the housing problem is the need of our senior citizens with incomes limited largely to old age pensions. Special consideration is rightly being given to the type of housing best suited to them. Their need is for simple, small, stairless houses, preferably with a small garden and within comfortable walking distance of a store.

The change from a rural and agricultural to an urban and industrial economy has markedly increased the problems of our older citizens in this century. Adequate housing is not their only need, and I should like to stress one other matter which is of public significance, and that is the matter of employment.

Employment of Older Workers

At a time when there appears to be general agreement on the value of pensions, it might seem that the employment of older workers is no longer a matter of unfinished business. It most certainly is. Two thousand years ago, a fundamental principle of living was stated in the words that "Man cannot live by bread alone". Food, shelter and clothing are not enough. Fullness of life is not achieved through indolence but through struggle and the opportunity for service.

If we insist on a policy of retirement at a fixed age, we must not only provide a pension but, long before retirement, should urge upon all workers the necessity of finding an outlet for the creative urge which dwells within each individual. The development of hobbies or interests outside the regular work routine will help to soften the shock of retirement and lead to useful and happy later years.

At the same time, we should critically examine our attitude toward older workers. Compulsory retirement at a fixed age treats all workers alike, but all workers are not alike. We all know that the physiological age of a person is not synonymous with his chronological age, but varies due to heredity, mode of living, accidents and disease sequelae. Administrators having to do with personnel problems cannot fail to note the feelings of resentment and frustration of individuals facing compulsory retirement from positions they are physically, psychologically and mentally well able to fill. Many workers are being retired prematurely at sixty, sixty-five or some other age when they are still capable of carrying on useful work on a full or part time basis.

It is interesting to note that, politically, our attitude to aging is far more consistent than it is in industrial or professional life. In Canada, we have just re-elected to the nation's highest office the Honourable Louis St. Laurent, in his early 70's, and in Britain the destinies of the people are in the hands of Sir Winston Churchill, as he nears the end of the same decade. Both of these individuals could have retired at sixty-five years of age without undue personal suffering because they have intellectual and other resources which would have

enabled them to cope with the situation, but how much would have been lost to the British Commonwealth of Nations and the world had they done so.

At the present time, about eight per cent of our population is over sixty-five and the number will continue to rise as the attack on chronic diseases becomes more and more successful. It is obvious that, in another decade or two, the problem of support of the non-working population will be so great that it will have to be faced realistically, and, since increasing longevity has come about in no small measure as a result of public health activities, we must face the resultant problems as part of our unfinished business.

A Call For Co-ordination

In all the fever of activity which engages our heads, hearts and hands, as we carry on the business of public health, a word of warning appears to me to be indicated. During the past decade, partly because of the emphasis rightly being placed on chronic diseases, national and local organizations have grown to the point where their desire for attention, time and funds may soon create a state of confusion in health activities. Due to their multiplicity, it is impossible now for a conscientious health officer to take the interest the public expects, and he personally desires, in the many community organizations devoted to some aspect of health.

On the financial side, in spite of community funds which have been established with the idea of getting all appeals into one co-ordinated effort, there continues to be a succession of calls on the public for assistance throughout the year. Some governing bodies must, of necessity, be established so that there will be a reasonable division of time, effort and money among the various groups. No one will deny that each organization is good in itself, but it is also true that there is a constant competition for public favour and support.

We have to be careful also to see that in the many forms of public assistance, official and voluntary, we are not wasting personnel and money because of over-specialization. Every national or local organization which is set up requires staff, space, supplies, time, and effort, and we should be sure that their multiplicity and specialization do not involve needless expenditures. It is certain that we are soon going to be in need of a program of integration. Otherwise, vested interests will become established so firmly that the good of the whole community will be subjugated to the needs, real or imagined, of the organizations most firmly entrenched.

The co-ordination of the many health organizations within any community, and also on provincial and national levels, is a project worth very serious consideration, and definitely is in the category of unfinished business.

The Medical Officer Looks at the Dental Public Health Program

L. W. C. STURGEON, M.D., D.P.H.
Director
Welland and District Health Unit
Welland, Ontario

ON SEPTEMBER 1, 1946, a dental public health program was inaugurated in the Welland and District Health Unit. The Ontario Division of the Canadian Red Cross Society supplied the funds, and the program was under the supervision of the Dental Public Health Committee of the Ontario Dental Association. The success of the venture was assured from the start because of the very generous contribution of the Red Cross and, secondly, the Public Health Committee of the Ontario Dental Association had as chairman a most enthusiastic pedodontist, Dr. Stewart MacGregor. He has been succeeded by others of similar stature. The original intention of the Red Cross Society was to finance the program for only two years, but the period was later extended to the first of September, 1951. The Society was satisfied, at that time, that what had been a theory had been proven to be fact. Subsequently, financial assistance to continue the program was obtained through the Federal Health Grants. Dr. S. Lee Honey has been the enthusiastic, hard-working supervisor in charge of the program since its inception.

In addition to this combination of circumstances there were other advantages. The Ontario Division of the Canadian Red Cross Society made no stipulation, at any time, as to the nature of the program. This was left to the discretion of the Public Health Committee and the local board of the Health Unit. The advantage of such an arrangement was that at no time were we subject to local pressure to institute a program of expediency because financing was being supplied by local taxpayers. The program could thus evolve in an orderly manner, based on fact, not tradition nor the opinions of uninformed persons. A special tribute to the Ontario Division of the Canadian Red Cross Society, therefore, is in order for their interest and support of everyone's effort.

As has been pointed out by Gruebbel (1), the problem of dental disease is a formidable one, and it might have so remained but for the findings of dentists and others examining recruits in World War II. Finances had to be taken into consideration when the cost of restorative work was added up by the Federal Government.

As a health officer for some years, I had found the problem of dental disease a perplexing one. Then, in 1946, during "Health Week", we had the good

---

Presented at the third annual meeting of the Ontario Public Health Association, held in Toronto on November 3 and 4, 1952.

fortune to have Dr. MacGregor speak at a meeting of one of the local service clubs. From his address, it seemed logical that dental disease might be tackled in the same manner that health authorities had dealt with health problems over the years.

The object of our dental public health program was "to determine the extent of dental disease in the population and to investigate all means of dealing with it". Dental disease affects 96% of the population. The cost of restoration can be estimated in advance, and due to research there was some evidence that part of the problem, particularly dental caries and the end results of caries, could be prevented. These facts tend to simplify the matter from a public health standpoint, putting it in the same class as other infectious diseases or conditions such as tuberculosis.

Essentially, the program consisted of the examination of all the school population, with notification to parents of what was found and the recommendation that they consult their family dentist. This information was transmitted to the teachers and to the students themselves through talks to the school classes by the supervisor. The information was then relayed to the public health personnel, particularly the public health nurses, for action. It was found that 6.2 operations per child were necessary to restore complete dental health. The surprising information was forthcoming that only one in five children had had occasion to see a dentist. In the younger age groups, at least, this was usually for relief of pain by extraction. It was found also that the dentists were seeing, on the average, only one child a day in their offices.

In certain instances and areas there was a ready response on the part of parents to obtain better dental care for their children, but knowledge that dental caries, with all the attendant ills, was occurring faster than it could be corrected, impressed everyone with the necessity of starting the dental public health program earlier in the child's life, before a backlog of corrective procedures became manifest. In subsequent years the public health dentist devoted more and more time to the Child Health Conferences, at which the attendance of infants and preschool children in our area is high. It can be appreciated that this was a logical step in that earlier care and attention cost the parents less and undoubtedly did a great deal to prevent the situation's getting out of hand from a dental corrective standpoint. The public health nurses augmented their pre-natal program by making information about dental care available to prospective mothers.

In the ensuing years, it has been my happy privilege to observe this program in action. It is not my purpose, in this paper, to deal with the statistical results, which will be reported by Grainger and Sellers (2), but rather to view the whole problem objectively. I can state emphatically that:

1. Dental caries can be reduced through a public health program. In 1953 a class of Grade VIII students graduating from public school showed no defects in their teeth.

2. Dentists can be educated to do more children's dentistry. They now see an average of six children a day.

3. The public can be persuaded to take a great deal more interest in the

whole problem. Dental public health committees have been formed of representatives of various interested organizations.

4. Our public health workers can be stimulated to take an interest in dental conditions in the population. Irene Lawson (3) has outlined the function of the public health nurse in the dental public health program, as a part of her many duties. Through her close contact with parents, in the home, the public health nurse accomplishes the most in ensuring that the children receive early and adequate dental attention. Because parents have to pay the bill, the person having the closest contact with them makes the greatest contribution. This in no way detracts from the efforts of all others concerned with the younger age groups—teachers, social workers, etc.

From our observations, there is no substitute for a dentist, trained in dental public health, working in all health departments which are large enough in population to justify the expense involved. An alternative would be to have regional dentists devoting their time to more than one health department. While MacGregor states that dental hygienists could be best employed in the field of prosthetics, we would suggest that such properly trained personnel might relieve the public health dentist of the problem of examining such large numbers of children and, like the public health nurses, could make a valuable educational contribution to parents, teachers, public health workers, and the community in general. If such personnel is not available, then the public health dentist, on a regional basis, would direct his educational efforts towards the dental profession, the public in general, through dental public health committees, and in particular, members of the health department staff. Having done this, the extent of the problem and the methods of coping with it could be determined and the efforts of everyone channelled toward improving the situation. Various types of programs have been started in different parts of this Province and elsewhere, based on our experience. Public health dentists are employed in several areas, and in many communities the Dental Public Health Committees have at least taken the first step to establish a base-line program showing the extent of the problem.

There are other factors which should be mentioned.

Specific Preventive Measures

Unless specific preventive measures are available to deal with the problem, any public health program will fall far short of complete success. The solution of the problem of tuberculosis control received a great impetus with the advent of antibiotics and surgical treatment. Diphtheria may have been controlled, in part, by the use of antitoxin and toxin-antitoxin mixtures, but the universal use of toxoid could eliminate diphtheria from our midst. Similarly, chlorination of water has made typhoid fever a very rare disease. To demonstrate the need of a balanced program, tuberculosis is still with us, a few cases of diphtheria occur annually, and typhoid fever can still be a problem. In other words, we cannot cast aside good public health practices and depend on specific measures alone. Fluoridation of water supplies and the topical application of fluorides have been found to reduce the incidence of dental caries as much as 50 to 60%. For that reason, from a public health standpoint, every-

one should follow the lead taken by many organizations in the United States and Canada in advocating the introduction of fluorides to communal water supplies and, if possible, promote more widespread topical application of fluorides to children's teeth where the water supply is a private one. We have fluoridation of the water supply in one town in our area. This year the topical application of fluoride was started in one of the townships. Admittedly, there has been some controversy about the value of these procedures but to me it is significant that a Lasker Award was made to two dentists, Doctors McKay and Dean, for their work on fluoridation, at the 1952 meeting of the American Public Health Association. The cost of the topical application of fluoride has been estimated, in our area, to be $6.00 per capita. The results actually justify this expenditure, but, even if this were not so, the health education given at the time of the application is of inestimable value and for that reason alone this procedure is indicated, where practical.

Research

MacGregor has mentioned four eras in the growth and development of dentistry. It should be appreciated that these have happened within less than one hundred years, and we can say that preventive dentistry is a relatively new practice. As in public health, the evolution of such a program should be orderly and should advance in accordance with changing conditions. This evolution should be based on research combined with field practice involving controlled experiments. The biology of oral health should be the first line of approach.

Treatment

The adequate and scientific treatment of all disease is one of the best public health procedures in existence. The tuberculosis program, as carried out in this Province, is an excellent case in point. In certain areas, public health workers who were confronted with the whole problem of dental disease, tried to do something about it, not without a certain amount of success. We refer to treatment programs instituted in various communities and directed towards restoration, extraction and other procedures in the school population. However, fundamentally, by the admission of those doing this work, much was lacking.

As health officers, we should be in complete agreement with Dr. Edward G. McGavran, Dean of the School of Public Health at the University of North Carolina: "The responsibility of a health department is not to indulge in treatment programs except in emergencies and, if we are forced to, we should quickly be relieved of the responsibility."

The problem of treatment should be left in the hands of the practitioner, with the public health authority solely complementing his activities. As far as dental conditions in our area are concerned, this problem of adequate and complete treatment for the whole population has not been solved. This is in contrast to the medical side of the picture. To the best of my knowledge, only a small proportion of the population, if any, requiring medical treatment are not receiving it.

Recently, I read a statement which, to me, sums up our responsibilities as professional groups. "It is the ethical responsibility of the profession to render all necessary service to all members of society without regard to their financial capacity; when it no longer is a reality, the profession becomes a trade."

This concept has been acknowledged by our profession for many years, and more recently in Ontario by the legal profession. Being a prophet is hazardous at best, but I am sure that the necessary evolutionary process in the field of dentistry—or, more likely, an extension of the present evolution towards preventive thinking—will follow this pattern. The pediatric specialty was the first to convince the medical profession of the necessity of taking a more active part in the whole field of preventive medicine. The pedodontists will similarly influence the rest of their profession.

Clarke (4) has outlined, exceptionally well, the responsibility of the dental profession. He says:

"As dentists we must realize that the public does have a stake in the practice of dentistry and we must learn to respect the public's viewpoint. It is universally admitted that the dentist is the sole authority in matters pertaining to dentistry; in the economic aspect, it is becoming clear that the consumers—the people themselves—are demanding equal rights and have equal concerns. The costs of dental care, how it will be paid for, how it will be made available to increasing public demand—these are all questions which we, as a profession, must satisfactorily answer if we wish to avoid any form of state control. The responsibilities of the family dentist to the family group include, then, the highest possible standards of practice coupled with education and an economic concern with respect to the profession as a whole."

In certain instances, it might be necessary for the health authorities to institute a treatment program for those unable to pay. Preferably, this should be done by the practising profession at large, and certainly it should be confined to the youngest age proups. Financial grants for treatment of school children are available in this Province, but from my observation it is too late when a child has reached school age. If the practising profession can be relieved of the problem of contending with dental caries, which Gruebbel states is responsible for 51% of tooth extractions, through specific preventive measures and earlier treatment of dental disease, then more time can be given to the other important dental conditions such as periodontal disease, malocclusion, malformations, etc.

Public Health Education

Much has been written and said about the excessive use of carbohydrates in the ordinary diet being a factor in the production of dental caries. It is not my observation that prohibition will eliminate this cause. The sale and use of carbohydrates in schools certainly can be eliminated by action of the school authorities, but the child can usually walk across the street and obtain carbohydrates in a concentrated and highly fermentable form. Good health and nutrition education can do much to improve the whole public health program. This was demonstrated during the first two years of our dental public health

program when we had the services of a part-time nutritionist supplied by the Canadian Red Cross Society. Her efforts were directed towards staff education and advice to parents in their homes and through Child Health Conferences. The whole public health program, not only dental health, profited as a result.

There is another aspect of dental public health education that has been prominently mentioned, namely, brushing teeth immediately after eating. It is difficult for children who eat their lunches in school to do this, but every effort should be made to have it done, even in rural schools. Certainly it should be possible in the children's home. The dentifrice used is of little importance; it is the brushing that counts.

Costs

Public health has been defined as "a plan of work with a dollar sign attached". Sir Allen Daley, formerly Chief Medical Officer for the London County Council, reports that in 1949 and 1950 general dental services exceeded by £260,000 the cost of general medical services in Great Britain. It does not seem reasonable, or sensible that the care of a small part of the human body should burden a person more, financially, than the whole for professional services. The public, looking for relief from taxes and the high cost of living, are turning more and more to prevention for relief. This is only logical.

Summary

In summary, having looked at a dental public health program for five years, I can state that:

1. The efforts of a voluntary organization, the Ontario Division of the Canadian Red Cross Society, have made a splendid contribution towards the development of a well-planned program aimed at improving dental health. The advantages of a voluntary organization, compared to an official body, in the early stages of any program, have been pointed out.

2. A dentist, trained in dental public health, should be an integral part of the staff of all health departments, and his program should be integrated into all the public health activities. Where one is not available, the alternative would be a dentist employed on a regional basis, serving several health departments. Dental hygienists could be employed, as well as auxiliary personnel.

3. Specific preventive measures, such as fluoridation, are necessary to deal adequately with the whole problem of dental disease.

4. Public health education, using auxiliary personnel, is essential in the early stages of the program and should be continuous.

5. The problem of dental treatment for the total population, regardless of their financial ability to pay for it, has not been solved in the program outlined. This might be dealt with if health departments established treatment programs confined to the earliest age groups. Such programs should be assumed by the dental profession as early as possible.

6. The costs of dealing with dental disease are out of all proportion to the total cost of keeping healthy. The general public is looking for relief and turning to prevention as a logical solution.

REFERENCES

1. Gruebbel, Allen O.: The Administration of Dental Public Health Services. Canad. J. Pub. Health, 1952, *43*:378.
2. Grainger, R. M., and Sellers, A. H.: The Welland and District Dental Health Program. Canad. J. Pub. Health, 1952, *43*:415.
3. Lawson, Irene: The Public Health Nurse in the Dental Field. Canad. J. Pub. Health, 1951, *42*:380.
4. Clarke, George K.: Dental Care of the Preschool Child. Canad. J. Pub. Health, 1952, *43*:116.

LETTER FROM GREAT BRITAIN

Dr. Fraser Brockington's next quarterly Letter from Great Britain will appear in the November issue.

Trends in Medical Care Organization

I. THEIR RELATION TO PUBLIC HEALTH PRACTICE

G. H. HATCHER, M.D., D.P.H., *Assistant Professor*
Department of Public Health Administration
School of Hygiene, University of Toronto

CURRENT CHANGES in the organization and financing of medical treatment services that lie largely outside the scope of present local health practice may have a profound influence on the future of public health work in Canada. Changes are proceeding steadily in the techniques of medical care, and in the distribution of services between hospitals and private offices, between general practitioners, specialists, and public and private group clinics. There is a steady increase in the financing of medical care through prepayment plans, and in the provision of public programs of medical care for the indigent, and in some places for the general population.* Finally, public attitudes towards the organization of medical care, and the responsibility of government for the health of the people, seem to parallel and sometimes outstrip these changes.

Is Medical Care a Public Health Concern?

Opinions differ as to the extent to which the health officer, whether provincial or local, should become involved in planning or giving direction to some of these changes. Most of these developments lie outside the present scope of activities of the local health officer. Some authorities caution public health workers against becoming embroiled in such controversial issues when so much remains to be done in the traditional fields of public health activity (1).

Other outstanding public health workers emphasize the need for the local health officer to participate in some way in every new health program developed under public auspices or with public funds (2): otherwise he cannot fulfil his primary function of safeguarding the health of the public and meeting the health hazards of each succeeding generation through the most efficient and economical organization of community resources.

Whatever view is accepted on this controversial point, public health workers must be familiar with current trends in medical care. A glance at the changes in public health organization in most English-speaking countries in the past twenty years makes it clear that public health workers cannot be indifferent to new developments in medical economics and medical care planning.

In Great Britain, the recent great extension of public medical services has

---

Presented at the forty-first annual meeting of the Canadian Public Health Association, held in conjunction with the fourth annual meeting of the Ontario Public Health Association, Toronto, October 1 and 2, 1953.

*See Report of the Committee on Social Security, page 385.

been paralleled by a sharp reduction in the responsibilities of the local health officer (3), so that they now approximate more closely those of his counterpart in Canada. In the United States, great extensions of health insurance coverage under voluntary and commercial auspices, and significant expansions of government responsibilities for health services have been accompanied by recommendations of sections of the American Medical Association (4) that functions of local health departments be so drastically limited that no qualified medical man would care to serve as a full-time medical officer of health.

Integration and Decentralization of Health Services

In Canada certain aspects of medical care traditionally have been the concern of provincial health departments. New medical care programs for special diseases or groups of people are being developed under public auspices, particularly in certain provinces. The majority of provincial health departments now devote a major proportion of their funds and available personnel to the planning, coordinating or administering of medical treatment programs in such special fields as mental health, tuberculosis, general hospital care, poliomyelitis, and cancer.

Where programs for medical care of the indigent or general hospitalization insurance or cancer treatment have been developed under other government departments or agencies, there is still a health department responsibility for coordination of these *ad hoc* services with other preventive and treatment programs, to ensure a consistent governmental health policy. Historically these *ad hoc* programs have tended ultimately to become direct administrative responsibilities of the health department, and thus to be more closely integrated with other health services. In fact, an outstanding characteristic of our provincial health departments is the high degree of integration at this level of all health services for which government has accepted some responsibility.

There are sound administrative reasons for such integration, in addition to the political principle of democratic responsibility. But there is also a case for decentralizing certain aspects of the administration of such medical treatment programs as are under public auspices. Whenever possible, significant responsibilities for medical care administration should be transferred from the provincial level to the local health officer.

This would improve the coordination of all health services at the local level, preventing duplication and gaps in service. It would give the hospitals and professional groups in each locality a real opportunity to share in planning and developing the services, and make possible their full cooperation. It would permit local adaptations of provincial and federal programs to suit varying local conditions. Of course many highly important planning and administrative functions would necessarily remain a central responsibility.

Without such decentralization there is danger that the local health department may be left only with responsibilities for environmental sanitation and immunization that either seem less important year by year as general sanitary standards are raised, or that are assumed increasingly by practising physicians as they become better trained in preventive medicine. In either case the local health department becomes steadily less important in the public mind and

less effective in its contribution to the prevention of disease and premature death. Meanwhile provincial government agencies providing medical treatment programs, or assisting in their provision, grow steadily more important.

No one would minimize the value of a strong Provincial Health Department, and in smaller provinces and areas without adequate local government organization, certain functions must be carried out at the provincial level. Yet it seems appropriate to ask if there is not a danger of overcentralization as new public health functions are added at the provincial level while the responsibilities of the local health officer are static or even shrinking.

The Crisis in Public Health

This contributes to the present crisis in local health practice, in which local authorities are unwilling to increase local health department budgets in proportion to the current inflation and to the need to raise standards of service, in which alarming shortages of public health personnel are accepted as commonplace and in which a large proportion of the Canadian population continues to live in areas lacking adequately staffed full-time local public organization.*

The shortage of health officers and public health nurses is not only a result of inadequate remuneration relative to other physicians and nurses. Most of these public health specialists work at the local level. The conviction that they are providing a valuable public service, and one which challenges their professional training and skill to the utmost, is essential if the interest in local health service of outstanding or even competent public health workers is to be engaged and maintained. This can hardly be done if their work is excessively narrow in scope, or if an increasing proportion of their professional knowledge is allowed to waste in idleness.

If local health practice were limited to the needs and social thinking of a century or even a decade ago, and if local health workers were excluded from any significant participation in the important new health programs increasingly financed from public funds, organized local health service would wither away in discouragement and mediocrity. In its place there would spring up a jungle of voluntary and public agencies, often without competent professional leadership and traditions, competing wastefully for public favour and funds, and lacking the integration, decentralization and public responsibility necessary to provide even the minimum of essential public health services. The health professions, public health workers, and the public have a common stake in preventing such a calamity.

Cooperation of Hospitals and Professional Groups

Fortunately, the scope of public health interest and practice is cautiously expanding, particularly at the provincial and federal levels. It now includes participation in the planning, and sometimes the provision of services for

*Accurate figures of this type can never be current, but available information suggests that today over half the Canadian population lives in areas lacking full-time services of even a local health officer for every 50,000 people, a sanitary inspector for every 20,000 people, and a public health nurse for every 5,000 people.

chronic illnesses, diagnostic services, hospital care and other forms of assistance to the practising physician and his patients. At the same time private practitioners are called on to take a larger part in the provision of maternal, child and school health services and other traditional public health programs, as more concentrated populations and better transportation make it possible to establish larger full-time local units of public health administration in Canada. In these new programs the understanding and wholehearted cooperation of the medical, hospital and nursing groups is more essential than ever before.

In the past such cooperation has usually been obtained by asking these professional groups to share in planning and developing the new public health programs. But at some point in the development of public health and medical care services, any further extension of public responsibility—however far behind public demand—is opposed by these groups, and particularly by organized medicine, as a threat to their professional freedom, independence and economic interest.

Fear of Government Control

As a rule hospital and medical groups welcome the extension of public *financial* assistance, particularly in hard times. They already accept without much question a fairly large measure of public control of their activities. This is exercised through time-honoured methods of professional and hospital licensing, inspection of hospitals, requirement of certain reports and record-keeping and the prohibition of a few illegal practices. Through public laws such as the provincial Medical and Hospital Acts, and through administrative practice, certain economic privileges and public obligations are given the professions and hospitals. Although the governments that made these arrangements have the power to change them, as a rule the control seems distant and indirect, and it is often vested in professional bodies appointed by government for the purpose.

But supervision in the public interest of the expenditure of the increasingly substantial allocations of public funds to non-governmental hospitals and professional groups will inevitably bring a greater measure of government control and new possibilities of unwholesome political influence. The fear of such control, as much as a desire to assist patients in meeting the costs of medical care, has prompted these groups to promote non-governmental health insurance as an alternative source of income to governmental subventions.

Such fears colour the attitudes of these groups toward relatively modest extensions of public health services to meet the needs of specific groups suffering from chronic illness, and even cause opposition to some of the traditional public health programs.

The Importance of Scientific and Professional Freedom

The necessary conditions for professional freedom are as essential to the practice of medicine, including public health practice, as they are to scientific enquiry. As organizational and administrative changes occur in the health field in response to Canada's increasing industrialization and attendant social problems, care must be taken to preserve the elements of this freedom that

are truly in the public interest. Whatever methods for the distribution of medical treatment services may evolve in the next few decades, we are agreed as to the benefits that people want distributed. They are the services of the well-qualified medical practitioner, free to treat his patients in the spirit of scientific enquiry, unhampered by lack of equipment, professional assistance, or auxiliary services, or by political interference, whether of party, personal prejudice, or professional faction.

But a distinction can be made between essential professional freedom and traditional economic arrangements with respect to details of remuneration or methods of administration. The legitimate economic interests of the practising professions, as they are affected by the increasing governmental and non-government organization of medical care programs, must of course be represented by democratically-elected representatives responsible to those professions. This is not primarily the role of the health officer. Yet, just as public health workers require the cooperation of professional and hospital groups, so those groups would benefit from the assistance of competent and respected public health leaders in their struggle both for professional freedom and for proper remuneration and conditions of work.

The Contribution of Public Health Workers

Public health officers and nurses are not unacquainted with professional ethics and the importance of professional freedom in their work. They can give eloquent testimony that inadequate remuneration of professional workers is not in the public interest. They have had valuable experience in administrative methods of eliminating undesirable political influence in public medical services, through such devices as the merit system of appointments. At the same time they appreciate the proper role of party politics in a democracy in moulding government programs to meet common human needs.

Public health workers have had considerable success in persuading governments to develop laboratory and auxiliary services to assist practising physicians. They have supported government grants to help build fine hospitals for their professional colleagues to work in. Sometimes they wish hospital and professional groups were as active in helping to get the health department housed elsewhere than in the cellar or garret of some mediaeval public building. Some of them have raised the prestige of their professions by long years of distinguished service and devotion to the public weal, beyond the call of duty or hope of financial reward.

The Use of Basic Public Health Disciplines To Study Medical Care

What then can public health workers contribute in the field of medical care administration? The first responsibility would be to study objectively any evidence of unmet need for medical care, and the economic problems of the average family in meeting the costs of medical care—both for catastrophic and for minor illnesses.

This is merely another application of epidemiological methods and the use of statistics in studying medical and medical-social problems. Most trained public health workers already have the basic training for this task and con-

siderable experience in its application to related fields. At the federal and provincial levels of administration the National Sickness Surveys are a valuable recent contribution to such work. At the local level this would mean acceptance of the health officer's basic responsibility to know the health status of his community and help plan to meet health needs of the public as they arise.

The second step for public health workers at the present time would be to study the administration of medical care programs that are now attempting to meet the medical and economic needs of the community through the prepayment and health insurance plans of various kinds. These would include compulsory, voluntary, and commercial plans, comprehensive programs and programs restricted to a single economic group or disease or type of care.

To what extent are these plans meeting the actual needs of the average Canadian family? To what extent are they meeting the public demand for security from the unpredictable and often high cost of hospital and medical care? Is the administration of these programs sound? Are administration costs excessive? Is there too much turnover in enrollment? Are the new services being extended to all groups in the country who need them? Are there wasteful duplications and gaps in the services offered? Is there evidence of abuses by those rendering or receiving the services?

Attempting to answer these questions is merely the application to a broader field of the experience of public health workers in medical and nursing administration. The recent Provincial Health Surveys marked a beginning of such investigation at the provincial level and should be familiar to all public health workers. The Department of National Health and Welfare has completed a number of valuable objective studies. The work of the Bureau of Public Health Economics in the University of Michigan with Windsor Medical Services and the valuable material coming from the interesting programs in Saskatchewan are also available to us.

Under the Federal Health Grants it should be possible for every provincial health department to develop studies of programs that seem most appropriate to its traditions and local problems. Is it too much to suppose that local public health workers would find the time to participate on the committees planning such studies or in actually carrying them out? Would this not be as important as many of the activities that now occupy so much of the health officer's time? At least public health workers might follow the findings of such studies with interest.

Do Medical Care Plans Emphasize Prevention and Quality?

In accepting a responsibility to study current medical care problems and some of the existing methods of attempting to meet them, public health workers may be particularly concerned with two aspects that might otherwise be overlooked. First, how do the new patterns of more highly organized medical services affect the possibilities of prevention of disease, disability and premature death? In the administration of these programs are there positive incentives to prevent preventable disease rather than let it occur and then pay to have it treated?

Secondly, is there a conscious policy of improving the quality of medical

care, or does the method of remuneration in the new programs merely encourage the provision of more health services rather than better medical care? The experience of our Workmen's Compensation Boards demonstrates that the prompt provision of a high quality of medical care prevents much disease and disability, and that medical care of indifferent or poor quality is always more costly in both human and economic values.

Professional freedom is an essential condition of medical care of good quality. But it is not the only condition. In one of the few detailed and unprejudiced discussions of the new British National Health Service, Dr. Osler Peterson of the Rockefeller Foundation suggests that the principal defect of the new Service was the lost opportunity to improve the quality of medical care.

"The British Medical Association, as the spokesman for the general practitioners, fought hard for professional freedom. This was commendable, but in retrospect it appears that this issue was never seriously in doubt. . . . One of the great misfortunes of the National Health Service has been that it has done nothing to improve the quality of the doctor responsible for providing most of the medical care for the bulk of the people."(5)

Conclusion

It would seem that public health workers do have a contribution to make in the planning and administration of medical care programs—a contribution that would be of value both to the public and to the professional groups who must render the services. What is called for is the application to medical care administration of the basic public health disciplines of epidemiology and public health administration. Few other groups have such training and experience both in medical administration and in the development of broad health programs in intimate co-operation with public authorities, professional groups, and voluntary agencies. Sharing the ideals of your professions and working in the public interest, yours is a unique and challenging responsibility.

REFERENCES

1. Emerson, Haven: Selected Papers. W. K. Kellogg Foundation, Battle Creek, Michigan, 1949. Pp. 396–7 and 453.
2. Mountin, J. W., as cited by Leavell, H. J.: The Role of the Local Health Department. Am. J. Pub. Health, 1953, *43*:21 and 22.
3. Daley, Sir Allen: The Problems of the Medical Officer of Health in England. Address delivered at an Assembly held at the School of Public Health of the University of Michigan, May 20, 1952.
4. Shepard, W. P.: Public Health and 'Socialized Medicine'. Am. J. Pub. Health, 1951, *41*:1338.
5. Petersen, O. L.: A Study of the National Health Service of Great Britain. The Rockefeller Foundation, 1951 (multilithed).

Prolonged Penicillemia Following the Intramuscular Injection of Benzethacil in Children

T. E. ROY, GRACE CRAIG, J. H. O'HANLEY
and JOHN D. KEITH

Department of Bacteriology and Department of Pediatrics, Hospital for Sick Children, and the Department of Bacteriology, University of Toronto, Toronto, Canada

N,N'-DIBENZYLETHYLENEDIAMINE DIPENICILLIN (Benzethacil)* was described by Szabo et al.[1] in 1951. Its toxicity is low according to Seifter et al.[2] Elias et al.[3] showed that intramuscular injections of this salt could give a penicillemia of longer duration than that reported following the administration of any previously described form of pencillin. This may be related to its low solubility.

This prolongation of the penicillemia was confirmed by Stollerman and Rusoff[4] in their study of its prophylactic use against streptococcal infections in rheumatic fever patients. Detectable penicillemia was found in some patients for 35 days following injection of 1,200,000 units of the preparation. The same conclusion regarding the penicillemia was recorded by O'Brien and Smith[5] in their investigation of a series of cases of gonorrhoea.

The following is a summary of our findings regarding the penicillemia in a series of 20 children given a single intramuscular injection in one site of 1,200,000 units of Benzethacil.

The patients varied in age from 5½ to 15 years, with 9 in the 6-8 group. Their weights varied from 35 to 140 lbs. Some were rheumatic fever cases, others were convalescent orthopedic and out-clinic patients. Some were bed patients, others were ambulatory. None was receiving other antibiotic therapy.

Blood assays were done on serum, using the cup agar plate method with *Sarcina lutea* as the test organism. This method, in our hands, gives an error of $\pm$ 15% with concentrations of 0.05 units per c.c. or more and a somewhat greater error with levels below this. The least detectable quantity is 0.02 units per c.c. Control tests on the sera were done using penicillinase to rule out non-specific serum inhibition of *Sarcina lutea*. In addition, blood sera were collected immediately before the injection of penicillin and all of these failed to show zones of bacterial inhibition. Sera were stored in the frozen state. There was negligible penicillin deterioration during such storage.

The table shows the results of the tests. It was not possible to collect blood

---

This work was assisted with funds allocated by the Province of Ontario from National Health Grants.

*The Benzethacil for this study was kindly supplied as "Bicillin 600 L-A" by John Wyeth and Brother (Canada) Limited.

PENICILLEMIA AFTER INTRAMUSCULAR BENZETHACIL
Single Dose of 1,200,000 Units

Case	Age years	Weight lbs.	Serum Penicillin Concentrations Units/c.c. at stated days							
			1	2	6 to 8	10 to 11	13 to 16	21 to 24	28	35
1	13	140	0.02	0.03	0.07	..	0.08	0.04	0	..
2	15	105	..	..	0.05	..	0.06	0.04	..	0
3	14	90	0.32	0.24	0.11	0.09	0.05	0.07	0.05	0.02
4	13	88	..	..	0.11	0.06	..	0.05	..	..
5	14	85	..	..	0.08	..	..	..	..	..
6	14	75	0.25	0.14	0.05	0.16	0.13	..	0	..
7	12	56	..	..	0.05	..	0.05	0.03	0.02	0
8	7	55	0.05	..	0.08	0.07	..	0.14	..	..
9	9	52	0.15	0.10	0.09	0.06	0.07	0.04	0.10	0.04
10	10	..	..	..	0.06	..	0.04	0.06	0.04	..
11	8	50	0.07	..	0.18	0.05	..	..	..	..
12	8	44	..	..	0.02	..	0.02	0.02	..	..
13	9	42	..	..	0.06	..	0.09	0.09	0.08	0
14	6	42	..	..	0.15	..	0.15	0.06	..	..
15	7	40	0.35	0.15	0.25	0.16	..	..	..	..
16	6	39	..	..	0.14	..	0.14	0.07	0.02	0
17	6	38	..	..	0.09	..	0.14	0.08	..	0
18	6	36	..	..	0.09	..	0.14	..	..	..
19	6	35	..	..	..	..	0.06	0.09	..	..
20	..	..	..	..	..	..	..	..	..	0
Average Concentration (No. done)			0.17 (7)	0.13 (5)	0.09 (18)	0.09 (7)	0.08 (14)	0.06 (14)	0.03 (8)	.. (8)
Above 0.10 unit/c.c.			4/7	4/5	6/18	2/7	5/14	1/14	1/8	0/8
Below 0.05 unit/c.c.			1/7	1/5	1/18	0/7	2/14	5/14	5/8	8/8

from all 20 patients for the full five weeks. Some were discharged from hospital earlier than anticipated, some attended clinics irregularly, and others developed intercurrent infection requiring more intensive antibiotic therapy.

The penicillemia was of prolonged duration. It was detectable in all of 14 tested at about two weeks and in a similar number at about three weeks. At four weeks 6 of 8 showed the presence of penicillin, and at five weeks it was detectable in only 2 of 8.

While penicillin was detectable for about four weeks, the concentrations tended to be low throughout. The highest level was 0.35 units per c.c. 24 hours after the injection. Only 21 of the 51 determinations from the first 16 days showed levels of 0.10 units per c.c. or more and 5 were below 0.05 units per c.c. Of the 30 done later than this, 2 were above 0.10 units per c.c. and 18 were below 0.05 units per c.c. One child, Case 12, had levels of only 0.02 units per c.c. on the three occasions when blood was taken, at one week, two weeks, and three weeks.

Roughly, the serum penicillin decreased with time, the average concentrations decreasing regularly from 0.17 units per c.c. at 24 hours to 0.09 units per c.c. at 1 week, to 0.03 units per c.c. at 4 weeks. At the same time individuals showed notable irregularities. In at least 8 cases serum concentrations were found at one time which were definitely higher than those found at a previous bleeding. This irregular absorption seemed unrelated to exercise or activity on the part of the patient.

Hypersensitivity reactions to the drug were not seen. Local reactions were common, consisting of stiffness and soreness at the site of injection. These persisted for 24 hours and occasionally for 48.

Only 3 of our cases showed positive nasopharyngeal cultures for hemolytic streptococci before receiving the drug. One strain belonged to Lancefield Group A, one to Group G, and one was ungroupable. All were susceptible to penicillin, and all cultures were negative within 24-48 hours following the use of the drug.

Discussion

Benzethacil intramuscularly in a dosage of 1,200,000 units will give a prolonged penicillemia. This will persist for 21 days in most individuals and for 28 days in some. Its persistence beyond this is unreliable.

The low serum penicillin levels throughout might suggest the ineffectiveness of this product in most infections. However, because of the uniformly high susceptibility to penicillin of Lancefield Group A streptococci and gonococci, one might hope for clinical effectiveness in infections caused by these microorganisms. The studies of Stollerman et al. suggested the value of Benzethacil as a prophylactic against hemolytic streptococcal infections, and the work of O'Brien et al. demonstrated its value and the effectiveness of such low penicillin levels in the treatment of gonorrhoea. While one might question the necessity for such prolonged penicillemias in the treatment of acute gonorrhoea, the drug may have a definite place as a prophylactic against hemolytic streptococcal infection in rheumatic fever patients or in scarlet fever contacts. Its use could eliminate the need for frequent administration of penicillin.

The effect of such low levels on the development *in vivo* of penicillin resistance by other members of the normal flora of an individual remains to be determined.

Summary

1. A single intramuscular injection of 1,200,000 units of Benzethacil will result in a prolonged low level of penicillin in the blood serum. This will persist for 21 days in most individuals and up to 28 days in some cases.
2. The levels attained may be effective against specific micro-organisms highly sensitive to penicillin.

BIBLIOGRAPHY

1. Szabo, J. L., Edwards, C. D., and Bruce, W. F., Antibiotics and Chemotherapy, 1951, *1*:499.
2. Seifter, Joseph, Glassman, Jerome M., Begany, Albert J., and Blumenthal, Albert, Antibiotics and Chemotherapy, 1951, *1*:504.
3. Elias, William, Price, Alison H., and Merrion, H. Joseph, Antibiotics and Chemotherapy, 1951, *1*:491.
4. Stollerman, Gene H., and Rusoff, Jerome H., J.A.M.A., 1952, *150*:1571.
5. O'Brien, John F., and Smith, Clarence A., Am. J. Syph., Gon. and Ven. Dis., 1952, *36*:519.

Canadian Journal of Public Health

FLUORIDATION OF PUBLIC WATER SUPPLIES

AMONG the subjects of resolutions considered at the forty-first annual meeting of the Canadian Public Health Association was the fluoridation of public water supplies. This subject has been carefully studied by the Dental Public Health Section of the Association. Leading medical officers of health have agreed with the findings of the Section and have endorsed fluoridation. At its sessions on October 1 and 2 the Association again endorsed this procedure in the following resolution:

> WHEREAS dental caries is an almost universal disease, affecting the health of the nation,
> AND WHEREAS there is considerable evidence that the dental protection acquired in early life is carried over, in good measure, into adult years,
> AND WHEREAS no detrimental effect has been demonstrable in those populations that have been using properly fluoridated water for seven years and longer,
> BE IT RESOLVED that the Canadian Public Health Association recommends the fluoridation of community water supplies for the reduction of dental caries in those communities where there is at present an insufficient fluoride content for this purpose, and where the procedure can be adequately controlled and supervised.

Great credit is due to Dr. W. L. Hutton, Medical Officer of Health of Brantford, who initiated fluoridation in Canada in 1945, and to Col. H. K. Brown, chief of the Division of Dental Health in the Department of National Health and Welfare, who instituted and carried forward control studies in the cities of Stratford and Sarnia, where no fluoridation is necessary. Since the introduction of fluoridation in Brantford there has been a 41 per cent reduction in dental defects among children. Cities in the United States which have adopted treatment of the public water supply with fluorine include San Francisco, Baltimore, Buffalo, Washington, Indianapolis, Pittsburgh, Louisville, and Providence. More than six hundred communities in forty-three States are employing fluoridation as a means of reducing dental caries.

The extent of dental caries is such that public health authorities might well be considered remiss in their duty if they failed to present the facts about

fluoridation and to urge its use if needed. There is ample evidence to support the statement that fluoridation will substantially reduce dental caries. No other practical procedure is known which will contribute so much to the reduction of the caries problem.

The arguments against fluoridation are similar to those that were advanced against chlorination of water. No one today questions the importance of the protection afforded by chlorination. The Canadian Public Health Association believes that the facts speak for themselves, and that the controversies which have arisen will be answered by demonstration of the procedure in many communities.

THE PASSING OF TWO PIONEERS

TWO MEMBERS who made highly important contributions in the Federal Department of Health passed away recently. Dr. Norman MacLeod Harris, M.R.C.S. (Eng.), L.R.C.P. (Lond.), died in Ottawa on July 24, and Dr. Helen MacMurchy, C.B.E., in Toronto on October 8.

When an Act was passed by Parliament in 1919 to provide for the creation of a Federal Department of Health, provision was made for the establishing of "a national laboratory for public health and research work". Two years later, the Laboratory of Hygiene was established in the Department, with Dr. Harris as the first director. Before going to Ottawa, Dr. Harris had engaged in the teaching of bacteriology at Johns Hopkins University, and for a number of years was assistant professor of hygiene and bacteriology at the University of Chicago. He served overseas in World War I, commanding Sanitary Section No. 4 in France and Belgium. Under Dr. Harris's direction, the development of the Laboratory of Hygiene was twofold, embracing studies of public health problems most appropriately dealt with by a central authority and having the specific duty of controlling those products mentioned in Schedule B of the Food and Drugs Act. Dr. Harris continued as director of the Laboratory until his retirement in 1938. In 1929 he was president of the Canadian Public Health Association.

Dr. Helen MacMurchy was appointed in 1920 as first chief of the Division of Child and Maternal Hygiene in the Federal Department of Health, and continued in this position until her retirement in 1934. Her interests were broad and included the fields of mental health and social welfare. She was the first woman to intern in the Toronto General Hospital, and brought to her work in public health a rich experience in medical practice. Over a period of years she made a special study of medical inspection of schools, child welfare, and public health in centres in England and the United States. For seven years previous to her appointment in Ottawa, she was provincial inspector and assistant inspector of hospitals, prisons and charitable institutions for the Province of Ontario. The outstanding contributions which she made won for her the appreciation of official and voluntary agencies. In 1934 she was made a Commander of the British Empire. She was an honorary life member of the Canadian Public Health Association.

The contributions which these two pioneers made will be long remembered.

The Canadian Public Health Association 1952-1953

(PART 1)

REPORT OF THE EXECUTIVE COMMITTEE

William Mosley, M.D., D.P.H.
Honorary Secretary

THE ANNUAL MEETING of 1928 marked a turning point in the Association's history. The decision was made to serve as a professional society and to concentrate the work of the Association on functions that relate to a professional society, leaving lay health education to specialized agencies. The original charter stated the function of the Association as "the dissemination of the knowledge of sanitation in all its branches". Such a commission implied programs designed to reach the general public. An association giving its major attention to the interests of those actively engaged in public health programs may properly be spoken of as a professional society.

The question may well be asked, have we succeeded in our objective? Unfortunately, the Association's accomplishments in the development of this objective are not well known to the members of the Association in general. A relatively small group have served on committees and carried forward the work of the Association. Each year various committees have presented reports of their activities. After presentation to the Executive Council at the annual meetings, they have been published in the Journal so that every member of the Association might know of what has been done. Year by year your committees have rendered important service. A specific effort must now be made to make every public health worker in Canada conscious of his or her responsibility to the Association as the professional society in public health.

It is pleasing to report that during the past few years important steps have been taken in the development of the plan for establishing a Provincial Public Health Association in each of the Provinces. Provincial associations of medical officers of health had functioned in most of the Provinces for many years. Wherein does the new plan differ?

The difference is this—and it is most important. The Provincial Public Health Associations now functioning as branches or divisions of the Canadian Public Health Association are composed of all public health workers: doctors, nurses, engineers, veterinarians, sanitarians, nutritionists, health educators, statisticians, and others whose work forms an essential part of the modern public health program. Before these Provincial Public Health Associations were established, most of the organizations were for medical officers of health exclusively.

Reports presented at the forty-first annual meeting of the Canadian Public Health Association, held in Toronto on September 30 and October 1 and 2, 1953.

Fundamentally, the success of a Provincial Public Health Association depends upon the realization by doctors, nurses, and all others in public health that their professional society is vital to them. There is not a professional group today that is not facing the problem with which we are confronted, but it seems particularly difficult to establish a sense of responsibility in the public health group. There are a number of reasons for this, which will not be discussed in this report. The essential point is that today the Association has, for the first time, a comprehensive plan that will be effective if everyone in public health will accept his or her responsibility.

Today, seven provincial public health associations are functioning: La Société d'Hygiène et de Médecine Préventive de la Province de Québec, the Ontario Public Health Association, the Alberta Public Health Association, the Atlantic Branch (serving Nova Scotia), the Manitoba Public Health Association, the New Brunswick–Prince Edward Island Branch, and the British Columbia Branch (established in April of this year). Membership in these Provincial Associations is open to everyone in public health. It is desired that the Provincial Association will assume full responsibility, including financing, for the annual meetings, around which their activities will centre. It is left to the Provincial Association to plan its budget and to collect a membership fee for its own maintenance and for the National Association. Two dollars of the amount collected is to be remitted to the national body. In this manner, every public health worker has an opportunity to become a member of the Provincial Association and, automatically, of the National Association also. The two dollars paid to the national body will not be adequate for the functioning of the Canadian Public Health Association unless the Provincial Associations are accorded the whole-hearted support of those in the field. The officers of the Provincial organizations must find ways and means of presenting to every public health worker the advantages of membership in the Provincial Public Health Association and, in turn, in the National Association. Without a real measure of service on the part of the provincially organized bodies, the National Association will not be able to function. The plan, therefore, is one in which the future of the Canadian Public Health Association is placed in the hands of the Provincial organizations.

During the year there has also been developed a plan whereby the Departments of Health of the Provinces may more readily assist in the support of the Canadian Public Health Association. It is purposed to present to the Departments an annual account for the services rendered by the Association. These include the supplying of the Journal to all public health workers, if possible; the work of the Committee on Professional Education in defining qualifications for public health personnel; the recruitment of public health personnel; establishing qualifications and providing training for sanitary inspectors; assistance in the work of the Provincial Public Health Associations; the annual national meeting; the Christmas meeting of the Laboratory Section; and studies in various fields of public health. Every public health worker will be directly benefited by receiving the Canadian Journal of Public Health, as a contribution from his Department of Health and as part of the work of the national body. To an increasing extent, the Journal must be an educational medium,

as well as an important scientific journal in preventive medicine. It is gratifying that general approval of this payment for services rendered has been expressed by the Deputy Ministers of Health. At this meeting of the Executive Council other reports will deal with aspects of this plan and its implications. It is the desire of the Executive Committee that all public health personnel will understand what is being undertaken on their behalf by the National Association.

Announcement of three additional grants as part of the National Health Program affords tangible evidence of the desire of the Government of Canada to continue and extend the National Health Program. The original eight grants have been supplemented by grants designed to provide health care for mothers and children; better health care for the disabled; and better facilities and services to help physicians in the diagnosis of their patients' illnesses. Over the next five years $42,000,000 will be made available for the support of these three programs and for the continuation of the National Health Grants, which for 1952–53 amounted to $36,561,495. The extent of the contribution made by the National Health Program cannot be estimated. At the same time there has been a great increase in the support given to public health by the provincial and local governments. In the hospital field a total of $56,890,232 has been expended or committed as a share in the construction costs of more than 400 hospitals, providing 46,000 additional beds. The hospital grants form but part of the cost of the new hospital construction, which was made possible by provincial and local support and public subscription.

Of great importance has been the extension of medical and public health research under the Public Health Research Grants. Initially, an amount of $100,000 was provided, but was not completely used during the first year. This year the full amount of $512,900 has been used in supporting research, which indicates the extent of the development of research in our Canadian universities and other institutions. The results will be reflected in improvements in public health. Those who are providing health services on behalf of communities know the importance of the National Health Program.

The progress in public health during the past five years should be reflected in the outlook of our Association. It is the time for completing an effective organization so that assistance may be given in the planning for the most effective use of the funds available under the National Health Program. The Canadian Public Health Association is counted on by Federal and Provincial health authorities and by municipalities to express the considered opinions of the health leaders of Canada. Our Executive Council has before it plans that are practical and that can be made effective through the individual participation of those in public health.

During the interval since the last annual meeting, the president, Dr. Defries, attended the 1952 meeting of the Atlantic Branch, at Yarmouth in September, and conferred with officers of the New Brunswick–Prince Edward Island Branch. Later he visited Western Canada, conferring with the Provincial Departments of Health and with the Provincial Public Health Associations. Dr. Ad. Groulx, Director of the Department of Health of Montreal, represented the Association at the meeting of the New Brunswick–Prince Edward Island Branch last October, outlining the work of the Association to the

members. In June of this year, Dr. Defries and Dr. George Moss, chairman of the Membership Committee, attended the third annual meeting of the Atlantic Branch in Halifax, and in September they were present at the third annual meeting of the Alberta Public Health Association, in Edmonton. Dr. G. F. Amyot, Deputy Minister of Health and Provincial Health Officer for British Columbia, represented the National Association at the latter meeting and participated in the program. These contributions by members of the Association affirm their confidence that the organization is essential to public health and to those who are carrying forward the public health program.

The 1952 national meeting, held in Winnipeg June 16 to 18 under the presidency of Dr. M. R. Elliott, Deputy Minister of Health, combined an excellent scientific program with generous hospitality. With the assistance of a local committee whose achievements might well be a model for future years, the program and arrangements were admirably planned and carried out. Almost four hundred delegates were registered, and the Manitoba Public Health Association held its inaugural session during the meeting. Because of a most generous contribution from the Province, it was possible to hold this very successful meeting at a cost to the Association of only three hundred dollars.

The twentieth annual Christmas meeting of the Laboratory Section was held in Quebec on December 15 and 16, under the chairmanship of Dr. J. Edouard Morin, Professor of Bacteriology, Laval University. The attendance totalled eighty-five.

During the year the Association lost, through death, two of its senior members. Norman MacLeod Harris, M.B., M.R.C.S., L.R.C.P., passed away in July 1953. He was internationally known as a bacteriologist and had organized the Laboratory of Hygiene of the Department of Pensions and National Health, of which he was Chief from 1921 to 1938, when he resigned. The Canadian Public Health Association was one of his major interests. He served as president in 1929 and as a member of the Executive Council for many years. Dr. Alphonse Lapierre, medical director of the County Health Unit of St. John, Quebec, died suddenly on March 20, while vacationing in Miami. He was one of the early group of medical officers of health who were responsible for the development of public health in the Province of Quebec. His work was outstanding and the health unit which he established brought great credit to Canada.

A unique contribution to the archives of public health was made recently by a former president of the Association, Dr. George D. Porter, with the publication of his book, "Crusading against Tuberculosis". At the invitation of the Canadian Tuberculosis Association, Dr. Porter has told, in his inimitable manner, the story of the early days of the anti-tuberculosis movement. The publication is one of permanent value and will afford great pleasure to Dr. Porter's many friends.

The Association is indebted to the School of Hygiene, University of Toronto, for office space and other facilities, which have been provided for a number of years.

REPORT OF THE HONORARY TREASURER

J. H. Baillie, M.D., D.P.H.

THE FINANCIAL STATEMENT for the year ended December 31, 1952, records a deficit, for the first time in a number of years. The deficit was incurred in part because several of the Provincial Departments of Health found that it was not possible to make a grant. It was due also to increases in the cost of printing the Journal.

In view of the difficulties associated with the making of grants, it is proposed to present to the Provincial Departments of Health an annual account for the services rendered by the Association. This plan is outlined by Dr. Mosley in the report of the Executive Committee.

For its present operations, the Association requires $25,000 per annum. It is hoped to provide approximately half of this amount through the co-operation of the Provincial and Federal Departments of Health. The remainder is to come from membership fees, subscriptions, and Journal advertising. The budget of the Association would be met if everyone in public health accepted membership in his Provincial Public Health Association and gave it his full support. The Association's requirements are modest, but if public health workers fail to assume their share, the result will be deficits that will quickly embarrass the Association. It is expected that each Provincial Association will make an intensive effort to bring this matter before the public health personnel of the Province and enroll the maximum number of members.

It is planned to hold the national meetings of the Association in conjunction with the meetings of the Provincial Public Health Associations in turn. It is hoped also that the National Association may be able to arrange to have public health leaders from adjacent Provinces represent the national body at the Provincial meetings and participate in their programs.

A review of the expenditures made during the past year indicates that the cost of printing the Journal was $1,400 more than in 1951. As part of the plans for 1954, efforts will be made to increase the revenue from advertising. If the support from the Provincial Departments of Health is provided and the Provincial Public Health Associations accept their responsibility, the Association should be able to meet the financial needs of 1954. The deficit of last year is a serious one and it calls for immediate action by our members; namely, the supporting of the campaign for new members, conducted by the Provincial Associations.

In the financing of the Association the grant of $5,000 from the Department of National Health and Welfare is greatly appreciated. The interest of the Honourable Paul Martin and the Honourable J. J. McCann in the Association's work is gratefully acknowledged. The grants made by the Provincial Departments of Health assisted greatly in the financing of the Association.

The Association is indebted also to Dr. M. R. Elliott and the members of the Winnipeg committee for their financing of last year's annual meeting. Because of their planning, the meeting was conducted at a cost to the Association of little more than $300, although it involved an expenditure of almost $4,000.

SCHEDULE A

CANADIAN PUBLIC HEALTH ASSOCIATION

REVENUE ACCOUNT
FOR THE YEAR ENDED 31ST DECEMBER, 1952

EXPENDITURES

Printing		$11,353.75
Postage on Magazines and Mailing Cost		728.50
Honoraria		100.00
Salaries		8,036.58
Travelling		431.21
Salary Survey		520.18
Committee on Memberships		182.35
Stationery and Office Supplies		353.23
Postage, Telephone and Express		459.98
Unemployment Insurance		79.08
Miscellaneous Expense		650.56
Provision for Depreciation–Office Equipment		348.81
Bad Debts written off		142.17
Discounts and Foreign Exchange		135.58
Ontario Public Health Association Meeting–Toronto, November 3 and 4, 1952–Expenses	$ 1,778.90	
Revenue	1,423.45	355.45
40th Annual Meeting–Winnipeg, June 16 - 18, 1952– Expenses	$ 3,968.08	
Revenue	3,628.51	339.57
Reprints–Cost	$ 1,225.48	
Revenue	872.92	352.56
		$24,569.56

REVENUE

Advertising	$ 5,747.00	
Less: Commissions Paid	627.75	$ 5,119.25
Subscriptions–less Refunds		4,803.43
Laboratory Section Meeting–Quebec, December 15 and 16, 1952–Revenue	$ 1,460.78	
Expenses	1,281.26	179.52
Grants–Dominion of Canada	$ 5,000.00	
Province of Ontario	2,000.00	
Province of Nova Scotia	300.00	7,300.00
Sanitary Inspectors' Section– Examinations–Revenue	$ 869.09	
*Cost	743.94	125.15
Correspondence Courses–Revenue	$ 1,645.00	
*Cost	755.35	889.65
Manuals–Revenue	$ 295.80	
*Cost	171.69	124.11
Interest on Investments		200.00
Excess of Expenditure over Revenue for the year transferred to Surplus Account		5,328.45
		$24,569.56

*Excluding Salaries

CANADIAN PUBLIC HEALTH ASSOCIATION
BALANCE SHEET
AS AT 31ST DECEMBER, 1952

ASSETS

Cash on hand		$ 50.00	
Cash in bank—Current	$ 2,370.46		
Savings	3,623.20	5,993.66	
Accounts Receivable	$ 1,441.18		
Less: Reserve for Doubtful Accounts	35.00	1,406.18	
Sundry Receivables		1,182.42	
Deposit with Postmaster		15.00	$ 8,647.26
Investments			5,000.00
Canadian Journal of Public Health		$ 1,000.00	
Office Equipment	$ 1,744.09		
Less: Reserve for Depreciation	1,556.10	187.99	1,187.99
Prepaid Expenses			285.00
			$15,120.25

LIABILITIES

Accounts Payable			$ 3,672.93
Prepaid Subscriptions			253.00
Surplus			
Balance as at 31st December, 1951		$16,522.77	
Less			
Excess of Expenditure over Revenue for the year (See Schedule A)		5,328.45	
Balance as at 31st December, 1952			11,194.32
			$15,120.25

Submitted with our report of this date attached.

TORONTO, Ontario
30th June, 1953

TESKEY, PETRIE & BURNSIDE
Chartered Accountants

REPORT OF THE EDITORIAL BOARD

YOUR EDITORIAL BOARD look forward to the time when the Association's Journal will be both a medium of education and a publication of current interest for all those who are providing the public health services. Increasing costs of publication and distribution make it impossible for the Editorial Board to achieve this objective at the present. There is no cause for discouragement, however. The Canadian Journal of Public Health is internationally known and

has an important place among scientific publications in preventive medicine and public health. The Journal is in its forty-fourth volume. Only once in four decades was its publication interrupted—in December 1947, when there was a printer's strike.

What is the value of the Journal to you? Is it simply another publication or is it a part of the equipment for your work? The twelve issues of each year, constituting a volume of more than 500 pages, is a reference book of great value. Nurses, sanitarians, and others who feel that the Journal has little of interest to them, must remember that their service and their satisfaction in their work are dependent on a knowledge of the whole field of public health. The Journal provides a medium for presenting work that is being undertaken in various parts of Canada in the promotion of public health.

Believing that the Journal can be of value to everyone in public health, the Association has presented to the Provincial Departments of Health a plan of support which will permit the Journal to be supplied to public health workers without charge to them. If the plan is endorsed by all the Provinces, the Journal will be available to a much larger number of public health personnel. The plan will succeed if each individual will make good use of the copies supplied him through this action of his Provincial Department of Health.

The cost of printing the twelve issues constituting Volume 43, 1952, was $11,353.75, an increase of $1,419.20 over the figure for 1951, although every possible economy was made. No charge is made against the Journal for editorial services, office space, or general expenses. The revenue from advertising, amounting to $5,119.25 after commissions were paid, was slightly less than that for the previous year ($5,316.35). The costs of printing and distributing the Journal are twice what they were ten years ago. Each subscription now represents a cost of $4.92 to the Association. The average circulation for the twelve months was 2,300 copies, distributed as follows:

British Columbia	248
Alberta	25
Saskatchewan	79
Manitoba	189
Ontario	903
Quebec	170
New Brunswick	73
Nova Scotia	141
Prince Edward Island	30
Newfoundland	12
TOTAL IN CANADA	1,870
United States	205
Foreign	132
Free	151
TOTAL	2,358

Members of the Association have been kept informed of the public health movement in Great Britain through the regular contributions made to the Journal by Dr. Fraser Brockington, Professor of Preventive Medicine at the University of Manchester. His reviews have made it possible for us in Canada

to appraise the changes in organization that have been made and to understand the new place of the medical officer of health in the medical field.

REPORT OF THE COMMITTEE ON MEMBERSHIP

G. W. O. Moss, M.D., D.P.H.
Chairman

IN THE REPORTS of the Executive Committee, the Honorary Treasurer, and the Editor, reference has been made to recent developments in the organization of the Association. The establishing of Provincial Public Health Associations in each of the Provinces will provide an opportunity for every member to have the advantages of an annual meeting, at which problems relating to the everyday administration of public health can be discussed. The new arrangement places the responsibility of enrolling members in the hands of the Provincial Associations. Membership in the Provincial body carries with it membership also in the National Association. Thus, membership enrolment is simplified and the response should be excellent. The amount of the membership fee will vary slightly from Province to Province, depending on the extent of the program attempted by the Provincial Association. Two dollars of the membership fee will be remitted to the National Association. It is felt that the Provincial Associations will be able to meet their financial requirements, such as those entailed in the holding of an annual meeting, the publication of news bulletins, etc., by charging a membership fee of three dollars. This would provide one dollar for the Provincial Association and two dollars for the National Association. It is expected that each Provincial Association will make an intensive effort to place before everyone in public health in the Province his responsibility for joining the Provincial Association, and thus taking his part in the whole work of the Canadian Public Health Association.

The plan provides for the Provincial Departments of Health to continue their support of the Canadian Public Health Association through a payment for services rendered by the national organization, including the publication of the Journal, the work of committees, and the holding of the national annual meeting, etc. This provision makes possible the supplying of the Journal to all public health personnel without charge to them. Your membership committee feel that, for the first time, it can be expected that all those who are carrying forward the public health services may participate in a Provincial Association and take their place also in the national organization. The extent of the contribution made by the Association in future years will depend on the work of groups of members representing the special fields, functioning through the Provincial Associations and bringing their findings to the national meetings. The whole plan is one of voluntary service, and its success depends on the enrolment by each Provincial Association of the maximum number of its public health personnel.

The Association had 899 members at the end of September. The Association should have at least 2,000 members. This committee expects to be able to report a greatly increased membership in its next annual report.

REPORT OF THE COMMITTEE ON SOCIAL SECURITY

G. W. O. Moss, M.D., D.P.H., Secretary

LAST YEAR THE ASSOCIATION'S COMMITTEE on Social Security was organized so that it might prepare a brief on health insurance for a Special Committee of the Dominion House of Commons. The setting up of this Parliamentary Committee was announced but sometime later was postponed indefinitely.

This makes it possible for our organization to give the subject the careful consideration it requires. It is planned to proceed with our study of medical-care organization, so that new developments in this field that are constantly taking place will not find us unprepared.

The past year has seen an acceleration of the diverse trends towards more highly organized medical and health services in Canada. A new government in British Columbia has not substantially changed the universal compulsory hospitalization insurance program. It seems that the British Columbia Hospital Insurance Service, like the Saskatchewan Hospital Services Plan, is here to stay. Under the stimulus of Provincial government assistance, the municipal hospitalization insurance plans in Alberta are being extended to non-ratepayers and to the cities; and the Newfoundland Cottage hospital and medical-care program is being expanded continually through construction of new buildings and training of personnel.

About one person in five in Canada is now enrolled in one of the Blue Cross hospitalization insurance plans. In Ontario and Manitoba, the enrolment exceeds one-third of the population. Insurance against some of the costs of physicians' services has been purchased by over two million Canadians from voluntary plans controlled by physicians, hospital associations or consumer groups. Commercial health insurance companies in Canada have sold contracts paying at least part of the hospital bill for about two and one-quarter million persons, part of surgeons' fees for about one and one-quarter million, and part of other physicians' fees for nearly a million persons. Growth of these plans has continued at a rapid pace in the past year. In the prairie provinces, mostly in rural areas, the municipal doctors and the Swift Current Health Insurance plan continue to offer a basic family-doctor service to about 300,000 persons. In the three western provinces, Ontario and Nova Scotia, the special provincial medical-care programs for public assistance recipients also cover nearly 300,000. The provincial governments are now providing most of the cost of the treatment of mental illness, tuberculosis, poliomyelitis and, in some provinces, of cancer as well. One of the new Federal health grants makes possible the extension of public diagnostic services. Increasing public expenditures for the construction and operating costs of general hospitals are evident even in provinces where there is no government hospitalization insurance program. Workmen's Compensation programs and the Department of Veterans Affairs have developed extensive physical medicine and rehabilitation services. A new Federal health grant for medical rehabilitation, and an extension of vocational rehabilitation through the Department of Labor, suggest new services in this field.

The trend to increasing specialization in medicine continues, and in the larger communities the general practitioner is increasingly isolated from hospital practice. Although the population is increasingly urban, the shortage of medical and dental personnel in rural areas is getting more acute. Group practice is making some gains over private practice and doctors are receiving an increasing proportion of their income from "third parties" rather than from the patients directly. However, findings of the Canadian Sickness Survey indicate that Canadian families still spend nearly twice as much for direct payment by the patient of medical and hospital bills as for prepayment insurance, despite all the government, voluntary and commercial health insurance plans. Thus the cost of medical care and its unpredictable occurrence is still an urgent medical economic problem.

New public health problems of major concern are those relating to accidents, cardiovascular disease, cancer, and chronic arthritic conditions. Most of these call for organized diagnostic treatment and rehabilitation programs, rather than mass prophylactic measures. The timely provision of adequate medical care is a not inconsiderable factor in the prevention of much disease. It will become a more important aspect of preventive medicine as we organize to meet the newer threats to the public health. At the same time, the increasing availability of pediatricians, obstetricians, and general practitioners better trained in preventive medicine, combined with prosperity, lead us to question some of our traditional public health programs. It is clear that in the future public health practice must be more closely related than ever to clinical practice.

With all these developments, the organization of medical and health services is changing, and any new national health program is certain to make even greater changes. These changes in medical and health services must create conditions in which the best quality of medical care is not only made possible, but actually encouraged, if the full possibilities of preventive medicine are to be realized in protecting the health of the public.

It is with this objective that the Committee on Social Security of the Association plans to study the effect of these changes on preventive medicine and public health practice.

To prepare a brief that will deal objectively with such difficult problems and make constructive recommendations, the Committee needs the full understanding and support of the Association.

REPORT OF THE LABORATORY SECTION

F. O. Wishart, M.A., M.D., D.P.H.
Secretary

THE TWENTIETH ANNUAL MEETING of the Laboratory Section of the Canadian Public Health Association was held in the Château Laurier, Quebec, on December 15 and 16, 1952. The local representatives arranged excellent facilities for the meeting and did much to make it enjoyable and profitable for those who attended.

It was regretted that Professor J. Edouard Morin, Chairman of the Section, was unable, owing to ill health, to conduct the meetings. The members were pleased that he was well enough to attend and to give an address of welcome.

The Vice-Chairman, Dr. T. E. Roy, assumed responsibility for direction of the meeting, which consisted of three scientific sessions, the annual dinner, and a visit to the Laboratories of the Hôtel Dieu Hospital. The papers presented were of a high order, were well received, and stimulated much discussion. The speaker at the dinner was Monseignor Ferdinand Vandry, Rector of Laval University. In his address the Monseignor outlined the origin of Laval University and gave a refreshing account of the historical development of the French and British races in this country and their contributions to Canadian development and culture.

The business session was concerned mainly with the time and place of future meetings. It was agreed that the Section should continue to meet separately from the parent body, but it was urged by several members that laboratory subjects of general interest to health officers should be included in the program of the annual meeting of the Canadian Public Health Association. Toronto was selected for the 1953 Section meeting and December 14 and 15 were agreed upon as dates.

A Nominations Committee was appointed consisting of Drs. C. A. Mitchell, C. E. Dolman, A. R. Foley, and R. D. Stuart. The following slate of officers was proposed by the Committee and passed by the meeting: Chairman, T. E. Roy; Vice-Chairman, R. D. Stuart; Secretary, F. O. Wishart; Council, A. R. Foley, Roger Reed, M. H. Brown, E. T. Bynoe, E. G. D. Murray, and R. Gwatkin.

It was the general feeling that this was one of the most successful and enjoyable meetings of the Section.

NEWS

British Columbia

DR. G. F. AMYOT, Deputy Minister of Health for British Columbia, was a guest speaker at the third annual meeting of the Alberta Public Health Association, held in Edmonton on September 3 and 4. His subjects were "What the Canadian Public Health Association Means to Me" and "Public Health Applied".

THE SEMI-ANNUAL MEETING of all provincial health officers and division directors took place in Victoria on September 9, 10 and 11.

DR. FRANK MCCOMBIE, director of the Division of Preventive Dentistry in the Provincial Department of Health and Welfare, attended a recent joint meeting at Saskatoon, Saskatchewan, at which the increasing of training facilities for dentists in the four western provinces was discussed. Present were the presidents from the four western universities and representatives from provincial and national dental associations, provincial health departments, and the Department of National Health and Welfare. Whereas the need was felt for at least one hundred new dentists each year to maintain the present ratio of dentists to population, only 30 graduates were available. The attention of the appropriate authorities will be drawn to the need for expanding training facilities by the establishment, at the earliest practical date, of two new dental schools in Western Canada. Also asked for were increased facilities for training dental hygienists.

MR. MERVIN JOHN STEWART joined the Provincial Health Branch in Victoria in June as a professional public health engineer. Before joining the Branch he had completed the work leading to the degree of Master of Science in Sanitary Engineering at the University of California and had been employed by the Federal Government.

DR. JOHN LISHMAN has resigned as director of the South Central Health Unit in Kamloops, to accept the position of Divisional Medical Health Officer for the Province of Nova Scotia, at Truro.

DETAILS of the three new Federal Health Grants, as well as health grants in general, were discussed during a visit to Victoria by representatives of the Department of National Health and Welfare, Dr. F. W. Jackson, Dr. J. H. Horowicz and Mr. James Gibbard, and by Mr. Hart Clark, representing the Federal Department of Finance.

MR. ALLAN CAMERON, of the Provincial Health Branch in Victoria, attended the recent Institute of Public Administration in Saskatoon. Two hundred people were present.

Saskatchewan

IRIAL GOGAN, M.B., B.Ch., B.A.O., L.A.H., D.P.H., of Dublin, Ireland, has been appointed medical health officer for the recently formed Regina Rural Health Region. Born in Cork, Dr. Gogan received his early education in Dublin and later attended University College, National University of Ireland, Dublin, where he obtained bachelor's degrees in medicine, surgery and midwifery, with first-class honours. In 1945 he qualified for a diploma in public health from the same university, with distinction in bacteriology, and this year he received his licentiate of the Apothecaries' Hall of Ireland. On leaving college, Dr. Gogan was appointed house surgeon and house physician in his teaching hospital, St. Vincent's, Dublin, and subsequently became resident medical officer in the City of Dublin Skin and Cancer Hospital. He left this post in 1945 to go into general practice and do public health work in Ireland and England. From December, 1946, to February, 1952, Dr. Gogan was a divisional medical officer for the Iraq Petroleum Company, with headquarters in Kirkuk, Iraq. Following this, he again worked as a general practitioner until his appointment with the Saskatchewan Department of Public Health.

MURRAY S. ACKER, M.D., D.P.H., was appointed recently director of the Research and Statistics Branch for the Department of Public Health. In this capacity, he will direct the analysis of statistical information compiled in connection with the department's public health and health services programs. The work of the branch also includes the organization of special studies aimed at the improvement of administrative procedures and increased understanding of provincial health needs. Dr. Acker is a native of Toronto and received his medical degree from the University of Toronto. He has spent two years in post-graduate study: he obtained his D.P.H. from the School of Hygiene, University of Toronto, and spent a year at the Usher Institute of Public Health

and Social Medicine, University of Edinburgh. Following service in the Canadian Army overseas, Dr. Acker joined the Department of Public Health in 1946. Since that time he has held various positions, the most recent of which has been assistant to the deputy minister. During the past year he has also acted as medical health officer for the Weyburn-Estevan Health Region.

STANLEY RANDS, M.A., B.A. (Oxon), Dip.Ed., for the past two years assistant to Dr. D. G. MacKerracher, director of Psychiatric Services, has been appointed to the newly created post of deputy director of psychiatric services. This new position carries administrative responsibility for the psychiatric services program, which includes the two mental hospitals at Weyburn and North Battleford, the training school for mental defectives at Weyburn, and nine mental health clinics. Before joining the Psychiatric Services Branch, Mr. Rands was assistant director of health education. He has a Master's degree in psychology and a diploma in education, both from the University of Alberta, and a B.A. degree from Oxford University, which he attended as a Rhodes scholar.

Manitoba

THE APPOINTMENT has been announced of Dr. Margaret E. Nix to the position of assistant professor in the Department of Health and Preventive Medicine, Faculty of Medicine, McGill University. Dr. Nix was formerly director of the Bureau of Health and Welfare Education, Department of Health and Public Welfare, Manitoba.

RALPH E. WENDEBORN, B.Paed. (University of Manitoba), has been appointed to the position left vacant by Dr. Nix. Born in Manitoba, Mr. Wendeborn has had twelve years of teaching experience in the province. His work has been largely in the field of guidance and counselling in public schools, and at the University Guidance Clinic. He has done extensive educational work with the Canadian Forestry Association, and with the community club work of the Winnipeg Public Parks Board. Mr. Wendeborn assumed his new duties on September 8.

L. A. KAY was named vice-president of the Western Canada Water and Sewage Conference at the annual meeting held in Edmonton in September. Mr. Kay is director of the Bureau of Public Health Engineering, Provincial Department of Health and Public Welfare. T. H. LACKIE, of the Bureau, also attended the meeting.

Ontario

MISS V. M. CROSSLEY, B.A., represented the Division of Laboratories of the Ontario Department of Health at the 1953 meetings of the International Congress of Microbiology, in Rome. Miss Crossley for many years has been in charge of enteric bacteriology in the Central Laboratory of the Ontario Division, and her work in Salmonella typing has gained international recognition. She also represented Dr. P. R. Edwards, American authority on enteric bacteriology and Salmonella typing, at Congress committee meetings on taxonomy. Following the Congress, Miss Crossley will visit the International Salmonella Typing Centre at Copenhagen, Denmark, and the Commonwealth Reference Centre at Colindale, London.

Quebec

MR. THEO. J. LAFRENIERE, P.Eng., Chief Engineer of the Ministry of Health, was installed as president of the Canadian Public Health Association for 1953–54 at the Association's forty-first annual meeting, held in Toronto on October 1 and 2. The forty-second annual meeting will be held in Quebec, at the Château Frontenac, May 31 to June 2, 1954.

DR. MAURICE SAINT-MARTIN, formerly chief bacteriologist in the Division of Laboratories of the Quebec Ministry of Health, has resigned to become bacteriologist of the Hôtel-Dieu of Montreal.

New Brunswick

THE ANNUAL MEETING of the New Brunswick Tuberculosis Association was held in Fredericton on September 23. Dr. D. A. Thompson, of Bathurst, surgical consultant at Notre Dame de Lourdes Sanatorium, was the guest speaker. The Hon. J. F. McInerney, M.D., Minister of Health and Social Services, expressed the interest of his Department in the contribution being made by the Association in combating tuberculosis in New Brunswick. Mr. G. L. Miller, of Fredericton, was re-elected president. Dr. J. A. Melanson, Chief Medical Officer of the Province, and Dr. P. M. Knox, Superintendent of Moncton Tuberculosis Hospital, were elected to the Executive.

ON SEPTEMBER 22 a pasteurization plant was opened at Grand Harbour, Charlotte County, on the Island of Grand Manan. It will serve approximately 3,000 residents of the islands of the Grand Manan group in the Bay of Fundy. The opening of this plant is of particular interest inasmuch as the project was advocated by the Depart-

ment about four years ago. Considerable assistance was rendered by the Department's Sanitary Engineering Division. This, together with a loan from the Provincial Department of Agriculture, helped to make this worthwhile project a reality.

THE THIRTY-SEVENTH ANNUAL MEETING of the New Brunswick Association of Registered Nurses was held in Fredericton on September 23 and 24, with 120 nurses in attendance. Miss Pearl Stiver, General Secretary of the Canadian Nurses' Association, was the guest speaker.

THE INITIATIVE and energy of the Beta Sigma Phi sorority has resulted in the establishment of the first Day Training School for Mentally Retarded Children in the Maritimes. This school represents the co-operative effort of various community organizations. The formation of the Association of Parents of Mentally Retarded Children has been a great asset. The Department anticipates the formation of similar parents' associations in conjunction with other day training schools in several centres in this Province. For the Mental Health Division of the Department, this school has served as a practical medium through which the mentally defective child can be helped.

DR. R. C. EATON was appointed superintendent of the Provincial Hospital at Campbellton, effective July 1, 1953. It is expected that the hospital will open during the early part of the coming year.

DR. C. H. ADAIR assumed full-time duty on July 1 in the Mental Health Division of the Department, as physician-in-charge of the Mental Health Clinic, Fredericton.

Dr. Oliver Leroux Appointed WHO Area Representative in India

THE APPOINTMENT of Dr. Oliver Leroux, of Canada, as the World Health Organization's Area Representative in India has been announced by Dr. C. Mani, Director of the WHO Regional Office for South East Asia. Early in October Dr. Leroux arrived in New Delhi by air from Ottawa, where he has been Assistant Director of Health Insurance Studies in the Department of National Health and Welfare.

The need for WHO Area Representatives in various centres in South-east Asia, especially for countries where national public health programs are being developed rapidly with assistance from international and bilateral agencies, has become increasingly apparent during the past two years. With the appointment of Dr. Leroux, the number of S.E. Asian countries having such representatives is increased to six: Afghanistan, Burma, Ceylon, India, Indonesia, and Thailand.

Dr. Leroux, as Area Representative in India, will act as the main link between the WHO Regional Office and the national health services, together with their counterparts in the various States. He will also be responsible for close co-operation with the Foreign Operations Administration (U.S.) and the Colombo Plan in their health work.

Dr. Leroux, who has recently served as a member of the WHO Executive Board, represented Canada at the Fifth and Sixth World Health Assemblies, held in Geneva in 1952 and 1953. He has also been a member of the WHO-UNICEF Joint Committee on Health Policy, the technical body responsible for deciding on medical and public health aspects of the supply programs carried out by UNICEF.

Before his appointment in the Department of National Health and Welfare, Dr. Leroux spent ten years in Asia, mainly India, in medical and public health work with the allied forces. As Deputy Assistant Director of Medical Services on the Burma Road, in Assam, during World War II, his most important work was the prevention of epidemics amongst the hundreds of thousands of refugees and troops involved in the withdrawal of General Alexander's army from Burma into Assam. Dr. Leroux was born at Hawkesbury, Ontario, and attended the University of Ottawa, where he obtained the degrees of B.Sc., B.A., and B.Ph., and, later, the University of Montreal, where he graduated in medicine.

Dr. Ernest A. Watkinson Appointed Head of the Occupational Health Division

DR. ERNEST WATKINSON, of Ottawa, has been appointed chief of the Occupational Health Division of the Department of National Health and Welfare. For the past seven years he has been a medical officer with this Division, which provides technical and consultative services on various aspects of the health workers in industry for provincial health departments and for federal agencies, including crown companies. He succeeds Dr. K. C. Charron, who has been named as a principal medical officer of the federal health department.

Dr. Watkinson is a graduate in medicine from Queen's University, Kingston, and in public health from the University of Toronto. In 1939 he enlisted in the Royal Canadian Army Medical Corps and served for six years in Canada and overseas. In 1946 he continued postgraduate studies at

the School of Occupational Medicine, Wayne University, Detroit.

The Fifth International Congress on Mental Health

THE WORLD FEDERATION for Mental Health has accepted the invitation of the Canadian Mental Health Association and the Canadian Psychological Association to hold the Fifth International Congress on Mental Health in Toronto August 14–21, 1954.

The World Federation for Mental Health was created in 1948 to promote better human relations and to increase understanding among cultures, among nations, and among professions. The Federation replaced an older body known as the International Committee for Mental Hygiene. It has consultative status with UNESCO and the World Health Organization and is on the register of the Secretary-General of the United Nations as a body to be consulted by the Economic and Social Council.

The members of the Federation are mental health associations and progressive societies. These cover the major fields concerned with mental health, human relations, and intercultural understanding, and include medicine, psychiatry, psychology, cultural anthropology, sociology and social work, education, and nursing. There are 77 member societies from 39 countries. The number of technically trained people who are members of these associations of the Federation approximates 1,000,000. Many individuals are also affiliated with the Federation as associates.

Four International Congresses have been held. The first two, in Washington in 1930 and in Paris in 1937, were under the auspices of the International Committee on Mental Hygiene. The Third Congress, held in London in 1948, had as its theme "Mental Health and World Citizenship". It was out of this congress that the World Federation for Mental Health developed. Since that time the Federation has held annual meetings in Geneva, Paris, Mexico City, and Brussels. The Fourth International Congress on Mental Health was held in Mexico City in December, 1951.

The program of the Fifth International Congress, to be held at the University of Toronto in August of next year, is being planned to reflect advances in the mental health field and to assist in realistic planning. The congress theme is Mental Health in Public Affairs. Enquiries about the congress should be sent to the Executive Officer, Fifth International Congress on Mental Health, 111 St. George Street, Toronto, Ontario.

EMPLOYMENT SERVICE

Advertisements regarding "positions available" and "personnel available" will be published in from one to three consecutive issues, depending upon the requirements of the agency or person concerned. They are limited to seventy words or less, with a confidential box number if desired. There is no charge for this service to members of the Association. Health agencies are charged a flat rate of $10.00 for the advertisements (up to four consecutive issues) and for the service. The rate for non-members is $5.00. The service includes confidential clearing of information between prospective employer and employee if desired.

Sanitary Inspector required by the Bruce County Health Unit; C.S.I.(C.) required. Minimum salary $2,500, with allowance for experience. Pension and Blue Cross Plans available. Car allowance 8c per mile. Apply to T. H. Alton, Secretary-Treasurer, Bruce County Health Unit, Walkerton, Ontario. 8/

Sanitary Inspector: Qualified sanitary inspector required for the Township of York Department of Public Health. Salary $3,300. Car allowance, Blue Cross Hospital Plan, five-day week, pension plan. Apply to Dr. W. E. Henry, Medical Officer of Health, Township of York, 2700 Eglinton Avenue West, Toronto 9.

Qualified Sanitary Inspectors required by the City of Ottawa Health Department. Apply in writing, stating experience and qualifications and salary expected, to the Secretary, Board of Health, Transportation Building, Ottawa. 9/

Public Health Veterinarian required by the Bruce County Health Unit. Minimum salary $4,500, with allowance for experience. Pension and Blue Cross plans available. Car allowance 8¢ per mile. Apply to T. H. Alton, Secretary-Treasurer, Bruce County Health Unit, Walkerton, Ontario.

Professor of Preventive Medicine: Applications are invited for the position of Professor of Preventive Medicine in the Faculty of Medicine, University of Ottawa. Requirements: M.D., with specialization in Preventive Medicine and preferably with teaching experience. Write full details to Box 30, Canadian Public Health Association, 150 College Street, Toronto 5, Ontario.

Wanted by the City of Windsor: One qualified Public Health Supervisor, salary $3,380 to $3,860, and one Public Health Nurse, salary $2,860 to $3,340, to complete nursing establishment of Director, 2 supervisors, and 23 nurses. Apply to Board of Health, 2090 Wyandotte Street East, Windsor, Ontario. Working conditions include five-day week, sick leave, pension, Blue Cross, medical and surgical care, and starting salary is based on experience. 10/

Research Assistant, Grade 3—salary starting at $327 per month for the first year, rising to $339 per month for the second year. University graduation in Arts or Commerce, with degree of Master of Arts or equivalent degree in a field related to statistics; preferably experience in public health statistics. Duties: under direction to assist in carrying out research projects for approximately two years in the field of public health statistics. Address applications to Dr. T. P. Patterson, Director, Environmental Management, Department of Health and Welfare, Victoria, B.C.

Research Assistant, Grade 1—salary starting at $250 per month for the first year, rising to $260 per month for the second year. University graduation in Arts or Commerce; preferably some post-graduate training or experience in the field of statistics. Duties: under direction to assist in carrying out research projects for approximately two years in the field of public health statistics. Address applications to Dr. T. P. Patterson, Director, Environmental Management, Department of Health and Welfare, Victoria, B.C.